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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/545,964	11/14/2005	Wilhelmus J.M. Sour	4662-58	8283
23117 7590 03/17/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
SANDERS, KRIELLION ANTIONETTE				
ART UNIT		PAPER NUMBER		
1796				
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03/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/545,964

## Applicant(s)

SOUR ET AL.

## Examiner

Kriellion A. Sanders

## Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)  
Paper No(s)/Mail Date 11/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Vogel et al, PG Pub 2002/0055006 in view of EP 1 162 236.

Vogel et al discloses an ionomer-polyamide blend useful for formulating decorative automotive parts comprising one or more polyamides with one or more ionomers, wherein the ionomer is dispersed in a continuous (or co-continuous) polyamide phase. The ionomers are copolymers comprising ethylene and alpha, beta -ethenically-unsaturated C3-C8 carboxylic acid

The polyamides comprise semicrystalline polyamides, preferably polycaprolamide (nylon 6). They may also comprise a blend of semicrystalline and amorphous polyamides with the amorphous polyamide fraction being up to 70% based on total polyamide weight. An amorphous polyamide that can be used is hexamethylenediamine, isophthalamide or terephthalamide terpolymer.

The blend may also contain components such as ultraviolet (UV) **light stabilizers**, antioxidants and thermal stabilizers, pigments and dyes, fillers, anti-slip agents, plasticizers, nucleating agents, and the like for both polyamide and ionomer. Preferably, these components

are present in amounts of about 1 to about 3 (preferably about 1.5 to about 3) parts per hundred parts by weight of the ionomer-polyamide blend, but may be present in lower or higher levels.

Preferred UV stabilizers and absorbers are (2-(2H-benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)phenol), (2-(3',5'-di-tert-butyl-2'-hydroxyphenyl)-5-chlorobenzotriazole), (2-(2'-hydroxy-3',5'-di-tert-amylphenyl)benzotriazole), (2-(2'-hydroxy-5'-tert-octylphenyl)benzotriazole), (bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate), (bis(2,2,6,6-tetramethyl-4-piperidinyl) decanedioate), (1,6-Hexanediamine, N, N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-polymer, (1,3,5-Triazine-2,4,6-triamine, N, N'''-[1,2-ethane-diyl-bis[[[4,6-bis-[butyl-1(1,2,2,6,6-pentamethyl-4-piperidinyl)amino]-1,3,5-triazine-2-yl]imino]-3- , 1-propanediyl]]bis[N', N''-dibutyl-N', N''-bis(1,2,2,6,6-pentamethyl-4-piperidinyl)-and (N, N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-1,6-hexanediamine polymer with 2,4,6-trichloro-1,3,5-triazine and 2,4,4-trimethyl-1,2-pentanamine).

Pigments include both clear pigments such as inorganic siliceous pigments (silica pigments for example) and conventional pigments used in coating compositions. Conventional pigments include metallic oxides such as titanium dioxide, and iron oxide; metal hydroxides; metal flakes such as aluminum flake; chromates such as lead chromate; sulfides; sulfates; carbonates; carbon black; silica; talc; china clay; phthalocyanine blues and greens, organo reds; organo maroons and other organic pigments and dyes.

Other additives, while not generally needed or used, such as fiber glass and mineral fillers, anti-slip agents, plasticizers, nucleating agents, and the like, may be incorporated into the compositions.

See paragraphs 0019 through 0059, 0148, 0144, 0155, 0156 and 0165 through 0172. The working examples employ the UV stabilizers at 1%. Specific amounts are not given for reinforcing material or carbon black but would be easily determined by the ordinary practitioner of this art, given the suggested amounts for the other components.

The EP reference discloses polyamide compositions useful for formulating automobile mirrors comprising 30 to 90 parts by mass of a mixed polyamide resin containing a crystalline polyamide resin at 50 to 95 % by mass and a non-crystalline polyamide resin at 50 to 5 % by mass to give 100 % by mass in total, and 70 to 10 parts by mass, of a reinforcement material.

With respect to the reinforcement material used in the invention not being specifically limited, glass fiber can suitably be used when mechanical properties, economical efficiencies etc. are totally taken into consideration. The use of lamellar silicate together with glass fiber is particularly preferable because lamellar silicate relaxes an orientation of glass fiber to improve surface smoothness and surface glossiness of molded articles. See paragraph [0024]. A fiber length of glass fiber is preferably 0.1 to 7 mm, especially 0.3 to 5 mm. A diameter of glass fiber is preferably within 6 to 15  $\mu\text{m}$ , especially 8 to 13  $\mu\text{m}$ . See paragraph [0029].

The carbon black in the invention is a material constituted by particles, wherein fine crystals with pseudo-graphite structure constitute crystal lattices in parallel and the crystal lattices aggregate to form the particles. In general, such a carbon black can be produced by a furnace method, in which an incomplete combustion of stock oil is performed in a sealed furnace. The carbon black produced by such a method, so called a raw carbon, may be used.

However, a treated carbon obtained by treating a carbon black with a plasticizer or a surface-treating agent is preferably used in consideration of a workability. As for the treated carbon, the one treated with polyethylene wax having a binder function and polyethylene has generally been used. However, the treated carbon treated by using the above resins as a binder is exposed to a condition of high temperature for molding, so that the binder resin is decomposed to generate gas and a whitening, being called flow mark, arises around a gate on a surface of a molded article in some cases. Therefore, when such a treated carbon is used in the present invention, it is preferable that an amount of addition of the carbon black is increased in order to put the flow mark in the shade. It is preferable to use acrylonitrile-styrene resin (AS resin) with high heat-resistance and the like as the binder resin. See paragraph [0030]. The carbon black has not only a function as a colorant but also a function as a weathering agent. An absorbance of the carbon black depends on an aggregate diameter of a structure formed by fusion-bonds of carbon black particles and, in the region of ultraviolet ray, a peak of the absorbance appears when the aggregate diameter is about 72 nm. **Therefore, an aggregate diameter of the carbon black is preferably adjusted within the range of 65 to 85 nm. If the aggregate diameter is less than 65 nm or more than 85 nm, the weather-color fastness worsens.** See paragraph [0031].

The weathering agent in the present invention prevents a photo-deterioration of the polyamide resin by absorbing and blocking ultraviolet light or inhibits a decomposition of the polymer by catching radicals generated by means of ultraviolet light or heat. For example, an ultraviolet light-screening agent, a light stabilizer, an ultraviolet light absorber, an antioxidant and the like can suitably be used. These materials may be used alone or in combination of two or more kinds, but, when the materials are used in combination, a synergistic effect is obtained to

achieve a more excellent weather-color fastness. See paragraph [0032]. With respect to the ultraviolet light-screening agent, inorganic fine particles coated with cerium oxide can suitably be used. with respect to the light stabilizer, hindered amine compounds having one or more structures represented by the following formula (1), copper compounds, and/or halogenated potassium are exemplified See paragraph [0035] One suitable example is bis-(2,2,6,6-tetramethyl-4-piperidyl)sebacate. See paragraph [0016] In the polyamide resin composition of the present invention, it is necessary to incorporate carbon black at about 0.2 to 5 parts by mass and a weathering agent in an amount of 0.01 to 10 parts by mass with respect to 100 parts by mass of the sum of the mixed polyamide resin and the reinforcement material in order to give weather-color fastness. It is preferable to incorporate the carbon black at 1 to 3 parts by mass and the weathering agent of 0.5 to 10 parts by mass.

The European reference provides clear direction as to the types and amounts of carbon black, reinforcing and UV stabilizing additives effective for polyamide compositions. Formulation of a reinforced polyamide composition having these specific additives would have been obvious tone of ordinary skill in the art at the time of applicant's invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 8:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kriellion A. Sanders/

Primary Examiner, Art Unit 1796

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Primary Examiner  
Art Unit 1796

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